

22 October 1962

Hqs. Comment - 25X1

<u>Para No.</u>	<u>Comment</u>
1.	Engine 205 to replace 202.
2.	Engine 205 post flight ground run revealed several spraybars inoperative due to coking.
3.a.	Coking aggravated by 3% oil. Basic reason for coking is 202 spraybars deadened with no drain. Residual fuel cokes with time
b.	Most of the 5140 development engine test hours accumulated at Florida has been with straight fuel with no additive including recent Mach 3.2 50 hour test conducted on engine FX-112 at 300°F fuel temperature. In addition, engine XD-1 has just completed a total of 98 hours afterburner development, 46 hours at Mach 3.0 and 34 hours afterburning; approximately 1/2 of which was with straight fuel and 1/2 with 3% oil.
25X1 c.	Delivery engines from have all been run with 3% oil. None run with straight fuel.
d.	Development engine FX-118 has run high power sea level with new teflon additive for 10 hours with no coking.
e.	Two hydraulic pumps have run 524 hours with 350°F fuel with new teflon additive. Of these, one pump accumulated 446 hours.
f.	14 hydraulic pump 50 hour tests have accumulated 1548 hours with 350°F fuel with no additive.
4.	P&W reports present trim motor response time is 30 to 45 seconds.
5.	Thrust decrease estimates based upon visual observation up engine tail pipe of spraybars during installed ground run.
6.	Engine 205 is now being equipped with new spraybar drain valves to permit drainage of residual fuel on afterburner shutdown. Two engine sets of this hardware are now at the Area.

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Comment

7.a.

Engines 204 and 205 incorporate provisions for new lower mount attachment as well as provisions for the older existing attachment. These engines are interchangeable with either nacelle configuration. The decision to install 205 together with the mount change requirement was made by Lockheed in order to accommodate a nacelle flight load structural deficiency discovered during airplane static tests in June or before.

b.

As anticipated and recorded, this mount change will affect the program. Engines 201, 2, and 3 which do not incorporate provisions for the new mount attachment will be returned to for modification at Lockheed's request. Turn-around time and impact on subsequent delivery engines has not been fully defined. Turbine exhaust case removal from the engine and machining will be required.

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